

CLAIMS

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Article 34
1. A vaccine composition comprising an effective amount of a polypeptide which polypeptide comprises an amino acid sequence which has at least 85% identity to the amino acid sequence of SEQ ID NO: 2 or 4 or to an immunogenic fragment thereof, or which polypeptide comprises a mimotope of the said amino acid sequence or immunogenic fragment, together with a pharmaceutically acceptable carrier.
 2. A vaccine composition according to claim 1 wherein the amino acid sequence has at least 95% identity to the amino acid sequence of SEQ ID NO: 2 or 4 or to an immunogenic fragment thereof.
 3. A vaccine composition comprising an effective amount of a polynucleotide which polynucleotide comprises a nucleotide sequence which has at least 85% identity to the nucleotide sequence of SEQ ID NO: 1, 3 or to a fragment thereof which encodes an immunogenic polypeptide, together with a pharmaceutically acceptable carrier.
 4. The vaccine composition according to any one of claims 1 to 3 wherein said composition comprises at least one other *Haemophilus influenzae* antigen.
 5. An expression vector or a recombinant live microorganism comprising an isolated polynucleotide which polynucleotide comprises a nucleotide sequence which has at least 85% identity to the amino acid sequence of SEQ ID NO: 1 or 3 or to a fragment thereof that encodes an immunogenic polypeptide.
 6. A host cell comprising the expression vector of claim 5 or a membrane of said host cell expressing an isolated polypeptide comprising an amino acid sequence which

has at least 85% identity to the amino acid sequence of SEQ ID NO: 2 or 4, or to an immunogenic fragment thereof.

7. A process for producing a polypeptide comprising an amino acid sequence that has at least 85% identity to the amino acid sequence of SEQ ID NO: 2 or 4 or to an immunogenic fragment, comprising culturing a host cell of claim 6 under conditions sufficient for the production of said polypeptide and recovering the polypeptide from the culture medium.
8. A process for expressing a polynucleotide, which polynucleotide comprises a nucleotide sequence which has at least 85% identity to the nucleotide sequence of SEQ ID NO: 1 or 3 or to a fragment thereof that encodes an immunogenic polypeptide, the process comprising transforming a host cell with an expression vector comprising said polynucleotide and culturing said host cell under conditions sufficient for expression of said polynucleotide.
9. An antibody specific for the polypeptide of SEQ ID NO: 2 or 4 or an immunologically active fragment of the antibody.
10. A method of diagnosing a *Haemophilus influenzae* infection, comprising identifying a polypeptide which comprises an amino acid sequence which has at least 85% identity to the amino acid sequence of SEQ ID NO: 2 or 4 or a fragment thereof, or an antibody that is specific for said polypeptide, present within a biological sample from an animal suspected of having such an infection.
11. Use of a composition comprising an immunologically effective amount of a polypeptide which comprises an amino acid sequence which has at least 85% identity to the amino acid sequence of SEQ ID NO: 2 or 4 or to an immunogenic fragment thereof, or

which polypeptide comprises a mimotope of the said amino acid sequence or immunogenic fragment, in the preparation of a medicament for use in generating an immune response in a mammal.

- 5 12. Use of a composition comprising an immunologically effective amount of a polynucleotide which comprises a nucleotide sequence which has at least 85% identity to the nucleotide sequence of SEQ ID NO: 1 or 3 or to a fragment thereof that encodes an immunogenic polypeptide, in the preparation of a medicament for use in generating an immune response in a mammal.

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13. A therapeutic composition useful in treating humans with *Haemophilus influenzae* disease comprising at least one antibody directed against the polypeptide of SEQ ID NO: 2 or 4 and a suitable pharmaceutical carrier.

- 15 14. An isolated polypeptide comprising the amino acid sequence of SEQ ID NO: 4 or a fragment or a mimotope thereof.

15. An isolated polynucleotide comprising a nucleotide sequence encoding the polypeptide of claim 14.

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16. The polynucleotide of claim 15 comprising the nucleotide sequence of SEQ ID NO: 3 a fragment thereof.